

## RP 509 NERC GADS Reporting Practices

The following recommended practice (RP) is subject to the disclaimer at the front of this manual. It is important that users read the disclaimer before considering adoption of any portion of this recommended practice.

This recommended practice was prepared by a committee of the AWEA Operations and Maintenance (O&M) Committee.

Committee Chair: Bruce Hamilton, Navigant  
Principal Author: Mike Curley, Navigant Consulting, Inc.

### **Purpose and Scope**

The scope of “NERC GADS Reporting Practices” describes best practices in reporting data to the North American Electric Reliability Corporation’s (NERC) Generating Availability Data System (GADS).

### **Introduction**

Established in 1982, NERC GADS is the industry standard for reporting availability performance data. The system has been invaluable to NERC in helping to assess bulk electrical system (BES) reliability issues and trends.

In 2013, GADS became mandatory for conventional generating units 20 MW or larger in size. Before that time, approximately 73% of the conventional generators reported their performance data to GADS. Following mandatory requirements, the number of units reporting to GADS reached 95% of the installed capacity of North America. This did not include any wind or solar generating stations.

Benchmarking is the secondary use of GADS data. NERC and many consultants use GADS data to compare units’ performance. For years, conventional generators have used GADS data to drive continuous improvement programs by comparing their performance to industry performance. GADS allows an “apples-to-apples” comparison of data that is necessary to benchmarking programs.

For details on conventional generating unit data reporting requirements, please visit: [www.nerc.com/pa/RAPA/gads/Pages/Data%20Reporting%20Instructions.aspx](http://www.nerc.com/pa/RAPA/gads/Pages/Data%20Reporting%20Instructions.aspx).

## **Mandatory Wind Turbine Reporting**

For a number of years, GADS collected wind generation on a voluntary basis. The movement to make wind turbine generation mandatory was approved by the NERC committees and the Board of Trustees has approved the following schedule:

- January 1, 2017: The data collection period for voluntary reporting begins.
- January 1, 2018: Mandatory reporting begins for plants with a total installed capacity of 200 MW or larger.
- January 1, 2019: Mandatory reporting begins for plants with a total installed capacity between 100 MW and 199.99 MW.
- January 1, 2020: Mandatory reporting begins for plants with a total installed capacity between 75 MW and 99.99 MW.

The current requirements for collecting data for the GADS wind turbines are listed in a template on the NERC Wind Turbine website at: [www.nerc.com/pa/RAPA/gads/Pages/GADS-Wind-DRI.aspx](http://www.nerc.com/pa/RAPA/gads/Pages/GADS-Wind-DRI.aspx). The instructions for completing the template are in the GADS wind turbine generation data reporting instructions, which are effective January 1, 2017 on the same NERC website.

Many of the outage definitions in the conventional GADS reporting are used with wind. The main differences are conventional GADS uses hours and wind GADS uses wind turbine (WT) hours. “Turbine-Hours” is defined as the time (clock hours) that each WT subgroup is in a forced, maintenance, planned, operating, etc., mode.

Conventional GADS uses consistent definitions and equations developed by the industry (IEEE762) to calculate the key availability metrics. Wind GADS takes these same definitions and equations used by conventional GADS. This data will allow wind generators to compare their performance to others, knowing that when they see a term it has a standard definition and has been calculated in a consistent manner.

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## **Status of Wind GADS as of April 2017**

**1.** Wind data reporting instructions (DRI) changes were approved by NERC's planning committee on September 13, 2016.

**2.** Revised wind DRI was posted on NERC's website on October 7, 2016. The recent changes included:

- GADS wind page
- Revision history within the document that provides a summary of changes by section.
- Notice to GADS working group (GADSWG), the industry body for monitoring and improving GADS works, and an announcement on the GADS page when available.

**3.** NERC is contracting with a vendor to create a software program to collect the required wind data as outlined in the recent GADS wind turbine generation DRI. The new software has been reviewed by the GADSWG and is being rolled out.

- Roll out to include industry outreach, training, and registration to access the reporting application.
- Industry outreach by webinars and conference presentations to various wind industry groups.
- Additional outreach via NERC-issued announcements, NERC Regions, and GADSWG. NERC will be presenting three, free GADS wind reporting training sessions at NERC sponsored workshops in 2017 as follows:
  - ◆ Austin, Texas: May 4, 2017
  - ◆ Salt Lake City, Utah: August 10, 2017
  - ◆ Atlanta, Georgia: October 5, 2017

**4.** NERC has a new dedicated email for wind questions and comments: [gadswind@nerc.net](mailto:gadswind@nerc.net).

**5.** GADS wind reporting application is moving forward and will support data submission, views, and reports/exports.

6. Highlights of recent activities are found in Table A.

Table A: Highlights of Recent Activities

Purpose	Audience	Delivery method	Timeframe
Testing of Process Training Material	Regional contacts	In-person, instructor-led PowerPoint	Dec. 2016
Testing of Subject Matter Training Material	GADSWG	Webinar-based, instructor-led PowerPoint	Dec./Jan. 2017
Revised Process and Subject Matter Training	Potential GADS Wind users and Regions	In-person and webinar-based instructor-led PowerPoint, including recorded webinar	Feb. and Mar. 2017, plus Oct. and Nov. 2017
Testing of Application Tool Training Material	Regional contacts and GADSWG	Announcement with link to draft training videos on NERC's website with request for feedback	Jan. 2017
Application Tool Training videos	Potential GADS Wind users and Regions	Videos available on NERC's website	Feb. 2017
Train-the-Trainer	Interested organizations	In-person, instructor-led PowerPoint	Q2 or Q3 2017

**7.** IEEE 762 “Definitions for Use in Reporting Electric Generating Unit Reliability, Availability and Productivity” working group is reviewing the definitions and equations for GADS Wind. NERC requested the IEEE committee reform to look at the definitions and equations for the new wind DRI.

**8.** If you are interested in speaking with the Chair of the NERC GADS Wind Turbine Generation DRI, please contact:

Mr. Fred “Doc” Beasom  
Principal PGD Engineer  
NextEra Energy Operating Services, LLC  
661-821-3490  
[Fred.Beasom@NextEraEnergy.com](mailto:Fred.Beasom@NextEraEnergy.com)

**9.** If you are interested in speaking with the Chair of the IEEE 762 regarding WT definitions and equations, please contact:

Mr. Alex Schneider  
630-613-3395  
[ASchneider@Quanta-Technology.com](mailto:ASchneider@Quanta-Technology.com)